

**Michigan Department of Environmental Quality (Michigan DEQ), Office of Drinking Water and
Municipal Assistance, Public Water System Supervision (PWSS) Program Work Plan Summary and**

FY 2014 End-of-Year Evaluation

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Federal funding used: PWSS grant; Drinking Water State Revolving Fund (DWSRF) Set-asides: 1) Small System Technical Assistance set-aside, 2) PWSS Program set-asides to supplement the PWSS program, and 3) Local Assistance set-asides that includes Wellhead Protection and Capacity Development.

FY 2014 End-of-Year Evaluation Synopsis: Analysis of the various programs within Michigan's drinking water program (below), and the data gleaned from implementation of these programs (see attached Measures and Indicators page), show many program improvements by Michigan DEQ. It is important to note that Michigan DEQ does not currently have adequate electronic reporting capabilities, due to competing priorities and resource limitations. Information Technology (IT) support from the Department of Technology, Management and Budget (DTMB) is now being provided to support WaterTrack until the noncommunity water system (NCWS) data moves to SDWIS/State or SDWIS-Prime. Financial/staff limitations within the Michigan PWSS program are an ongoing obstacle.

For FY 2014, Region 5 commends Michigan DEQ for exceeding its targets for all National Drinking Water and Source Water Protection Measures, which include those from U.S. EPA's Office of Ground Water and Drinking Water (OGWDW) and the Office of Enforcement and Compliance Assurance (OECA). During the most recent Drinking Water State Revolving Fund (DWSRF) Performance Evaluation in May 2015, the Region noted Michigan DEQ's continued use of set-asides for innovative purposes and projects. The DWSRF set-aside workplans are very well written from a technical and financial perspective. Progress is noted in all activities funded with DWSRF set-asides. The FY 2014 Program Evaluation Report (PER) for the Michigan State Revolving Fund Programs, prepared by Region 5 State and Tribal Programs Branch and dated July 27, 2015, should be consulted for more information regarding the State's DWSRF program.

The most recent Regional Shared Goals, which represent CY 2014 (final data as of April 2015), show Michigan DEQ met 6 milestones of the 7 goals. The non-transient noncommunity water system (NTNCWS) goal not met indicated that more than 5% (5.2%) NTNCWSs have significant/major monitoring violations for acute-based standards; namely for total coliform and nitrate.

Resources and Expertise: Michigan DEQ employs a highly trained staff with the technical expertise to carry out all mandatory components of the PWSS program (including engineering plan and specification review, sanitary surveys and emergency response.) However, due to lack of adequate funding, the drinking water program cannot hire sufficient staff to accomplish all program activities. As a result, the PWSS program prioritizes activities, placing emphasis on those with direct impact on public health. Contracts with the Local Health Departments (LHD) to conduct the PWSS program at NCWSs, have been successful in ensuring public health is protected. However, the upcoming implementation of the Federal Revised Total Coliform Rule (RTCR) in FY 2016 with no additional Federal funding, may force the Michigan DEQ to prioritize LHD activities, and could increase the number of primacy activities the LHDs will be unable to complete. Michigan DEQ has indicated that if the Federal PWSS grant continues to be reduced or if the DWSRF set-asides are reduced, adequate staffing levels may be difficult to maintain and Michigan DEQ's ability to meet federal PWSS primacy requirements could be jeopardized. The Region continues to offer assistance to the State, which includes compliance assistance and enforcement partnership.

Rules and Primacy: Michigan DEQ has been granted primacy for all Federal drinking water regulations, and is implementing all drinking water rules. The State submitted its draft RTCR for Region 5 review, and the Region provided comments for public hearing in February 2015. The Region looks forward to receipt of the RTCR primacy package in FY 2016.

For the past several years, Michigan DEQ disinvested in a number of program activities that were partially implemented in FY 2014. Partial implementation includes:

1. Lead Consumer Notification of tap results at NTNCWSs:
From FY 2013 – FY 2015, Michigan DEQ phased-in the notification of schools and daycares of the lead consumer notice requirement. The Michigan DEQ is commended for achieving over 99% of the NTNCWSs compliance with this requirement, as noted in spring 2015. Michigan DEQ has agreed to fully implement the lead consumer notice requirement at the remaining NTNCWSs during the next 3-year compliance period, FY 2016 – FY 2018, with Region 5 assistance.
2. Lead Annual/Triennial Sampling at NTNCWSs during June – September Timeframe: The number of NTNCWSs conducting lead sampling during the required months of June – September has been increasing over the past several years, and the Region is glad to see that the State will be including this requirement in the CY 2016 annual monitoring letters.
3. Consumer Confidence Report (CCR):
Michigan DEQ continues to notify community water systems (CWS) of the CCR requirements, and issued/reported violations in FY 2014 for failure to produce and distribute a CCR.
4. Submittal of lead and copper rule reporting forms: During FY 2014, Michigan DEQ committed to issuing violations for failure to conduct required lead and copper monitoring, but did not commit to issuing violations for failure to submit the lead and copper reporting form. The Region is glad to see that the State will be tracking the submittal of the lead and copper reporting forms from CWSs during FY 2016.

The Region would like to thank Michigan DEQ for providing example CCRs this past year to include in updates to HQ- produced guidance documents.

Regarding implementation of the Long-Term 2 Enhanced Surface Water Treatment Rule (LT2), EPA Headquarters issued guidance dated February 4, 2010, recommending a revised *E.coli* trigger value of 100 cfu/100 mL for small systems to conduct *Cryptosporidium* monitoring. This guidance was released after Michigan DEQ submitted its LT2 primacy application to Region 5. Region 5 allowed this trigger level (February 26, 2010) during Early Implementation in Michigan during Round 1 LT2 monitoring for Schedule 4 systems. Michigan DEQ is allowed to use this trigger level during Round 2 for Schedule 4 systems, which begins October 2017. This paragraph serves to document a change to the ongoing implementation of LT2, which will be filed with the original primacy application at Region 5.

The Region acknowledges the effort and resources Michigan DEQ have used to assist the City of Flint in addressing compliance issues and distribution system issues that have arisen since the City of Flint changed its source of drinking water in April 2014.

Sanitary Surveys: Michigan DEQ ensures that sanitary surveys are conducted periodically that, at a minimum, meet frequency requirements specified by rule. The LHDs are under contract by the State to perform sanitary surveys at all NCWS. Each LHD's sanitary survey efforts are reviewed by the State periodically, but not less than annually. Region 5 tracks State commitments to conduct sanitary surveys within the federally required intervals.

The April 2015 numbers provided for the time period ending December 31, 2014 report that:

- SURFACE WATER SYSTEMS: 92.54% (251 out of 273) of CWSs surface water sanitary surveys were completed for the time period CY 2012 - CY 2014; and 100% (11/11) of transient noncommunity (TNCWS) sanitary surveys were completed for the time period CY 2010 – CY 2014. The State is commended for meeting the National measure.
- GROUND WATER SYSTEMS: 92.16% (904/988) of CWS ground water sanitary surveys were completed for the time period CY 2012 - CY 2014; 98.72% (1,216/1,232) of NTNCWS ground water sanitary surveys were completed for the time period CY 2010 - CY 2014; and, 98.4% (7,489/7,613) of TNCWS sanitary surveys were completed for the time period CY 2010 – CY 2014. Commendable!

Michigan DEQ has successfully maintained a very high percentage of completion of sanitary surveys at its NCWSs for many years. This high compliance rate is most likely the result of Michigan DEQ's annual evaluation process when any survey backlog is highlighted; and, national/Regional emphasis not to exceed the 5-year mark which has led to closer scrutiny by the LHDs and the State. The State's practice of distributing each LHD's progress to all LHDs quarterly may contribute to maintain or continue to decrease the number of sanitary surveys older than 5 years. Region 5 applauds Michigan DEQ's efforts!

Laboratory Certification: The State is expected to maintain: (1) certification for the principal State laboratory, (2) a certification program to certify commercial labs within the State, and (3) a process for ensuring capacity to analyze at the principal State lab or commercial labs for all parameters that are required to be sampled in the State. Laboratory certification responsibilities in Michigan are undertaken by the Michigan DEQ Laboratory and radiological parameters are analyzed by the Wisconsin State Lab of

Hygiene. Michigan DEQ ensures all results used for compliance with the Safe Drinking Water Act (SDWA) are analyzed by certified labs. Michigan DEQ agrees to ensure all laboratories that produce results for compliance with the SDWA are recertified at least once every three years and will meet all requirements of 40 CFR parts 141 and 142.

In March 2012, the Region 5 Certification Team conducted an on-site review of the Michigan Laboratory Certification Program. Findings were addressed by the Laboratory Director. After an on-site evaluation by U.S. EPA Region 5 in March 2012, Michigan DEQ Laboratory was granted full certification for chemical and microbiological analyses on December 21, 2012. This certification will last for 3 years, and will expire on December 21, 2015. A laboratory certification visit is being planned for spring 2016.

Michigan DEQ has been developing Electronic Drinking Water Reports (eDWR), a data system that will report data from private laboratories to the State. In the March 2012 Laboratory audit, U.S. EPA found that a large portion of the non-community sample data from private laboratories were hand-entered by LHD staff, and the community program was having issues with mapping and importing data into SDWIS/State, so data needed to be entered into program databases manually. Michigan DEQ is strongly encouraged to focus IT resources to complete eDWR. Implementation of eDWR should ensure that Michigan DEQ and the LHDs will be notified more quickly of hold time exceedances, so there will be more opportunity to notify the water supply in order to obtain a replacement sample before the monitoring period ends. Upon completion, eDWR will improve the timeliness issue of State's receipt of private labs results, of reporting positives to the State promptly, and improve data quality.

Compliance and Enforcement Management: Region 5 tracks State commitments under the OECA measure SDWA02 and updates Michigan DEQ quarterly. Michigan committed to address 13 systems in FY 2014, and Michigan has addressed 31 systems. Commendable!

Michigan DEQ is commended for providing detailed system specific compliance/enforcement updates in response to the quarterly letter/report and using this report to communicate system-specific implementation and enforcement response instructions to LHDs.

Michigan DEQ CWS Program issued First Formal Enforcement actions during FY 2014 to 13 CWSs, and only 1 system has not addressed its monitoring/reporting (M/R) violations. The 12 systems with violations that were returned to compliance include: TCR maximum contaminant level (MCL) violations (2 systems); TCR MCL/Ground Water Rule (GWR) failure to address significant deficiencies violations (1 system); TCR M/R violations (3 systems); GWR failure to respond/consult with State; GWR failure to address significant deficiencies, Lead and Copper Rule (LCR) M/R, and Public Notice (PN) violations (1 system); CCR violation (4 systems); Lead Consumer Notice violation (1 system); and M/R violations for multiple rules (1 system). One of the 13 systems was referred to the Region and the Region has coded the return to compliance into the Federal database, SDWIS.

Michigan DEQ NCWS Program issued First Formal Enforcement actions during FY 2014 to 27 NCWSs, and all of these violations were returned to compliance. The violations that were returned to compliance include TCR M/R violations (17 systems); Nitrate M/R violations (6 systems); TCR and Nitrate M/R violations (2 systems); TCR and Arsenic M/R violations (1 system), and Arsenic M/R violation (1 system).

The Region notes progress in changing the NCWS inventory, primary service area, to reflect “school” and “daycare”. Six out of 18 churches that had a primary service area of “other area” have been changed to “school” or “day care”, and 1 NTNCWS church has been re-classified as a TNCWS.

The Region is pleased to see that Michigan DEQ has ended the interim use of bottled water for arsenic noncompliance at NTNCWSs, and the number of NTNCWSs currently using bottled water for arsenic noncompliance has decreased by over 25%. No new systems are allowed to go on bottled water. Due to a change in reporting of violations to SDWIS/Fed, the NCWS program has notified these systems that they must begin quarterly monitoring for arsenic. Michigan DEQ is working with these systems to replace bottled water with a permanent solution to arsenic exceedances that will bring these systems back into compliance.

Data Management and Reporting: Michigan DEQ maintains a data management system that tracks requirements for all rules and serves as the central store of data reported by laboratories, field offices and LHDs. However, Michigan DEQ does not currently have adequate electronic reporting capabilities, due to competing priorities and resource limitations. Information Technology (IT) support from the Department of Technology, Management and Budget (DTMB) is being provided to support WaterTrack until the NCWS data moves to Prime. Financial/staff limitations within DTMB and the drinking water program are an ongoing obstacle.

The CWS program uses SDWIS/State 3.22, and FedRep 3.4, and the NCWS program uses WaterTrack and FedRep 3.4 to report actions and sample data to U.S. EPA quarterly, and inventory data at least annually, in accordance with 40 CFR 142.15. Also, SDWIS/State 3.3 came out at the end of April 2015 and FedRep 3.5 came out in June 2015. The Region recommends that MDEQ move to the latest versions of SDWIS/State and FedRep as soon as possible following appropriate testing.

CWS program is using SDWIS Compliance Decision Support (CDS) for TCR, GWR, LCR; Stage 1 monitoring; Stage 2 Trihalomethane/Haloacetic Acids (TTHM/HAA5) reporting; lead consumer notice; Operation Evaluation (OEL) reporting; and sanitary survey and site visit tracking. We encourage the State to move to full automation of CDS for all rules.

The CWS program does not track entry point chemical monitoring in SDWIS/State because SDWIS/State does not handle schedules the same way Michigan DEQ does, and electronic reporting is still unavailable. The CWS program expects to transition entry point tracking to SDWIS/State to prepare for future transition to SDWIS/Prime.

As of July 2015, Michigan DEQ reported for new rules at CWSs prior to April 2015:

- 7 Treatment Technique (TT) and 50 GWR M/R violations;
- 6 Stage 1 Disinfection By-Product rule (DBPR) TT violations;
- 169 Stage 2 DBPR M/R violations and 13 MCL violations; and,
- 11 Lead and Copper Rule Short-Term Revisions (LCRSTR) consumer notification M/R violations.

The NCWS program is continuing its use of WaterTrack, with support from DTMB. WaterTrack is unable to report new rule data for the Lead and Copper Rule due to data management limitations of

WaterTrack; and WaterTrack can only partially support tracking and reporting for the GWR and the DBPR. Thus, no GWR violations or other new rule violations are being reported to the Federal database, for NCWS, due to data management issues. However, State staff is manually tracking these violations. For details regarding Michigan DEQ's Data Management Limitations, see Attachment D of the Annual Resource Deployment Plan (ARDP).

In order for the NCWS program to report GWR or DBPR violations at this time, changes to WaterTrack would have had to be made so these violations could be reported. Waiting for SDWIS/State and/or Prime is the only reasonable decision for the NCWS program to make at this time. Region 5 will continue to track violation reporting to the Federal database for GWR, LCRSTR, LT2SWTR, Stage 1, and Stage 2 DBPR.

In January 2014, a plan was agreed to by Michigan DEQ drinking water program and DTMB to support WaterTrack so it is usable for the next 2 years, and included a project to migrate data from WaterTrack to SDWIS-State. However, the NCWS program plans to set up a new server and migrate WaterTrack data to SDWIS-State in-house during FY 2016. The Region strongly recommends the continued effort to address the reporting limitations and offers assistance to the State.

The reporting schedule for States to the national database, SDWIS/Fed, is quarterly. If the data is not reported within 60 days, Region 5 raises the issue to the State Director's attention. Michigan DEQ continues to meet most of the quarterly reporting dates.

It is also important for the State to correct identified errors in the database in a timely manner. The Region requests that the State prioritize correcting inventory errors, open-ended violations linked to SOX (return to compliance) codes in ODS, and reporting the required missing location data. Note: The CWSs have 12 sources and NCWSs have 9 sources without locational data, as of the February 2015 data submission.

The joint Region 5/MI DEQ Deleted Source Project described in FY 2014 ARDP cannot be completed. Region 5 no longer has access to the data in SDWIS/Fed Mainframe needed to restore the actions data.

Region 5 is tracking late reporting of TCR and nitrate violations, and arsenic non-compliance at CWSs and NTNCWSs. Michigan DEQ timeliness in reporting these violations has improved from 2013 to 2014. As of April 2015 for CY 2014, 96.3% of the TCR M/R violations were reported on-time, (and 3.4% were reported up to 2 quarters late); and 100% of the nitrate M/R violations were reported on-time. For CY 2013, 89.6% of TCR M/R violations were reported on-time, (and 8.1% were reported up to 2 quarters late); and 93% of the nitrate M/R violations were reported on-time, (and 5.1% were reported up to 2 quarters late). Regarding arsenic MCL violations, the data as of January 2015 indicates 99.78% CWSs were in compliance, where 3 CWSs with a population of 217 had arsenic MCLs that were not returned to compliance.

Operator Certification: Michigan DEQ established and implemented minimum professional standards for the operation and maintenance of public water systems to ensure that trained and certified professionals are overseeing the treatment and distribution of safe drinking water and to promote compliance. Michigan DEQ provides documentation to U.S. EPA annually, to show the ongoing implementation of the operator certification program to avoid 20% withholding of the DWSRF grant.

The FY 2014 Operator Certification report was received by the deadline of September 30, 2014, and approved. Highlights include:

- Excellent compliance rates regarding the number of CWSs, NTNCWSs, and TNCWSs with an Operator-in-Responsible Charge.
- Practical follow-up and enforcement with systems with a compliance issue, such as not having a properly certified operator.
- Strong stakeholder involvement in developing exam questions and validation process.

Capacity Development: Michigan DEQ ensures that new and existing CWSs/NTNCWSs can demonstrate technical, managerial, and financial capacity to operate in compliance with Federal and State regulations. Michigan DEQ provides documentation to U.S. EPA annually by December 30th, to show the ongoing implementation of the new systems program and the existing systems strategy to avoid 20% withholding of the DWSRF grant. Michigan DEQ met the December 30, 2014 deadline, and the 2014 Capacity Development Annual Report was approved, dated April 1, 2015. Only one new system within the last three years was considered a high priority for enforcement [had a score of 11 or more on the Enforcement Tracking Tool (ETT)].

Michigan DEQ is commended for several regulatory initiatives to promote asset management at water supplies. Drinking water administrative rules were amended to strengthen capacity development and asset management principles, by requiring all municipal public water systems designed to provide fire protection to complete a more comprehensive Asset Inventory, and prepare 5-year and 20-year Capital Improvement Plans (CIP) by January 2016. Additionally, previously exempt facilities (those licensed annually by the state, including manufactured housing communities and health care facilities), are required to prepare a general plan by January 2016. A second set of amendments to the drinking water administrative rules has been drafted which will require CWSs, including municipal and private, with a population greater than 1,000, to implement an Asset Management Plan by January 2018. Promulgation is expected in early 2016. The Asset Management Plan required in the draft amendments, includes an Asset Inventory, 5-year and 20-year CIPs, and a summary of the funding structure and rate methodology that provides sufficient resources to implement the Asset Management Plan. The Revolving Loan Section within the Office of Drinking Water and Municipal Assistance works with water systems to develop Financial Action Plans, and promotes the development of Asset Management Plans and CIPs.

Ground Water and Source Water Protection: Michigan DEQ annually reports to U.S. EPA the number of CWSs with Source Water Protection (SWP) plans and the population served by CWSs with minimized risk due to SWP. Even though source water protection is voluntary in Michigan, Michigan DEQ exceeded its 31% target (32.2%) in FY 2014 to ensure CWSs have SWP plans. Michigan DEQ met its target of 79% (80.2%) of the population served by CWSs with minimized risk due to SWP. Michigan DEQ recommends that SWP plans be updated every 6 years, especially in prioritized areas, to be considered as substantially implementing SWP. Michigan DEQ expects these target levels to potentially drop the next fiscal year if CWSs do not update their SWP program plans. Michigan DEQ has continued to contract with Michigan State University (MSU) to continually improve the Michigan Ground Water Management Tool (MGMT), an innovative tool that uses information from the Wellogic water well record system to perform particle tracking and delineate Wellhead Protection Areas (WHPAs). Michigan DEQ has used MGMT to delineate WHPAs for CWSs that had previously not completed WHPA delineations. This effort has resulted in WHPAs for:

- 3,440 wells serving a total of 1,264 CWSs, where 1,276 total WHPAs consist of 379 WHPAs that have been identified by traditional means, and 897 WHPAs that have been identified using MGMT; and,
- 1,926 NTNCWSs wells corresponding to approximately 1,420 WHPA delineations.

MSU has successfully created a spatially accurate groundwater database from Wellogig data, to refine the delineation process using MGMT, and to better determine the drift thickness of the aquifer. Michigan DEQ is also focusing on outreach to CWSs and NTNCWSs to train on MGMT and its capabilities related to delineations of WHPAs. Two workshops have been scheduled in the Lower Peninsula, Midland and Novi, and one workshop will be held in the Upper Peninsula.

Michigan DEQ has a Wellhead Protection (WHP) Program which offers a 50/50 grant to CWSs to develop a WHP plan. This program has been very successful, though funding for this program has decreased over the past 13 years. Using the WHP 50/50 Grant Program as a template, Michigan DEQ developed a Surface Water Intake Protection (SWIP) Program that incentivizes participation in the development of a SWIP plan with 50/50 grants (through the Local Assistance Capacity Development set-aside). Implementation of the SWIP grant program began in FY 2014.

Michigan revised its substantial implementation definition in 2012 to include more specific requirements that systems must meet before the definition could be applied. The new requirements include: municipal systems with approved SWP plans must review their SWP plans at least once every six years in order to keep them current; non-municipal systems must complete a SWP guide based on their provisional delineation; and, surface water systems along the Lake St. Clair/Lake Erie shoreline from the Marysville intake to the Monroe intake, participate in the Real-Time Monitoring network). These revisions illustrate Michigan DEQ's commitment to ensure that systems are actively working to implement their approved SWP plans.

Challenges to implementing SWP in Michigan include the loss of State source water staff due to budget cuts and retirements.

Measures and Indicators: The enclosed Measures and Indicators page is a compilation of the most recent data for all quantitative measures that Region 5 uses to regularly assess State program performance, including the National Program Measures, the Logic Model Reporting Tool (LMRT) measures, Regional Shared Goals, and Regional High Priority queries. The most recent data from the LMRT was provided in July 2014 for the time period 2009-2013; however, Headquarters' funding for the LMRT was not renewed. The Region is currently evaluating other sources of data to replace the LMRT data.

Michigan DEQ met all of the National Program Measures from U.S. EPA's Office of Ground Water and Drinking Water (OGWDW) and the Office of Enforcement and Compliance Assurance (OECA).

The most recent Regional Shared Goals, which represent CY 2014 (final data as of April 2015), show Michigan DEQ met 6 milestones of the 7 goals; improvement noted from CY 2013. The NTNCWS goal not met, indicated that more than 5% (5.2%) of NTNCWSs have significant/major monitoring violations for acute-based standards; namely total coliform and nitrate.